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EXAMINER

MOUTTET, BLAISE L

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 12/06/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/803,105

Applicant(s)

FUJIBAYASHI ET AL.

Examiner

Blaise L Mouttet

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 March 2001 and 03 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 1-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign mentioned in the description: 33 as described on page 8, line 10 of the written description. Correction is required.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 32 as shown in figures 1 and 2. Correction is required.

### ***Claim Objections***

2. Claims 1-10 are objected to because of improper syntax in claims 1 and 5. The following corrections would overcome this objection.

In claim 1, line 4 "characterized by" should be deleted.

In claim 1, line 7 "image" should read --an image--.

In claim 5, line 8 "to be along by" should be changed to --to be arranged along--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2 the recitation that said detection means **can be** mounted on a carriage fails to inform one of ordinary skill in the art whether or not a carriage is actually being claimed as part of the printing apparatus and therefore the scope of the claim is indefinite. Claims dependent from claim 2 assume that the carriage has antecedent basis so it is assumed by the examiner that the applicant means to positively recite the carriage as an element included in the printing apparatus. Therefore this rejection would be overcome if "can be" were changed to --is--.

Claim 5 recites the limitation "said primary scanning direction" in lines 3-4 and 9. There is insufficient antecedent basis for this limitation in the claim. This rejection would be overcome if claim 5 were amended to depend from claim 4 which contains the appropriate antecedent basis.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1, 2, 4, 8, 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Khormae US 5,397,192.

Khormae discloses, regarding claim 1, a printing apparatus for printing an image on a printing medium 14 while relatively moving a printing head 40 provided with a plurality of printing elements and the printing medium comprising:

detection means 50 capable of moving along with the printing head 40 relative to the printing medium 14 for detecting an image printed on the printing medium (figure 1, column 3, lines 39-49); and

control means 60 for controlling the printing head 40 according to the detection result of the detection means (column 3, lines 50-59).

Regarding claim 2, the printing head 40 and detection means 50 are mounted on a carriage 22 as shown in figure 1.

Regarding claim 4, moving means 26 moves the carriage 22 in a primary scanning direction (column 3, lines 18-20) and transportation means move the printing medium in a secondary scanning direction crossing the primary scanning direction (column 2, lines 66-68).

Regarding claim 8, the detection means includes a light source and a photoelectric conversion device (column 3, lines 39-49).

Regarding claim 9, see column 3, lines 34-38.

Regarding claim 11, see column 3, lines 39-59.

5. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Beauchamp et al. US 5,448,269.

Beauchamp et al. discloses, regarding claims 1 and 7, a printing apparatus for printing an image on a printing medium 40 while relatively moving printing heads 102, 104, 106, 108 each provided with a plurality of printing elements and the printing medium comprising:

detection means 200 capable of moving along with the printing heads 102, 104, 106, 108 relative to the printing medium 14 for detecting an image printed on the printing medium (figure 2, column 5, lines 37-40); and

control means for controlling the printing heads according to the detection result of the detection means (column 2, lines 46-54).

Regarding claim 2, the printing heads 102, 104, 106, 108 and detection means 200 are mounted on a carriage 101 (figure 2, column 5, lines 5-7).

Regarding claim 3, the printing heads are replaceably mounted as shown in figure 2.

Regarding claim 4, moving means 110 moves the carriage 101 in a primary scanning direction and transportation means move the printing medium in a secondary scanning direction crossing the primary scanning direction (column 4, lines 1-10).

Regarding claim 6, the detection means detects printed pixels printed by the plurality of printing elements (figure 5, column 8, lines 24-29, column 9, lines 1-4); and

the control means controls drive timing of the printing elements according to differences in detection times of printed pixels (column 9, lines 5-10).

Regarding claim 8, the detection means includes light sources 232 and 234 and a photoelectric conversion device 240 (see figure 7).

Regarding claims 9 and 10, see column 3, lines 61-63.

Regarding claim 11, see column 2, lines 38-54.

6. Claims 1, 2, 5, 6 and 8-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Perner US 6,227,644.

Perner discloses, regarding claim 1, a printing apparatus for printing an image on a printing medium while relatively moving printing head 10 provided with a plurality of printing elements and the printing medium comprising:

detection means 15 capable of moving along with the printing head 10 relative to the printing medium 14 for detecting an image printed on the printing medium (figure 1, column 3, lines 30-38); and

control means (figure 2) for controlling the printing heads according to the detection result of the detection means (column 3, lines 1-9).

Regarding claim 2, the printing head 10 and detection means 15 are mounted on a carriage (see figure 1 in which reference numeral 18 refers to the movement of the carriage and column 6, lines 4-6 which refers to the carriage on which the printing head is mounted).

Regarding claim 5, figure 1 shows that ink jetting nozzles 14 are arranged in a direction crossing the direction of primary scanning 18 and that a plurality of detection

elements 16 are also arranged along a direction crossing the primary scanning direction 18.

Regarding claim 6, the detection means detects printed pixels printed by the plurality of printing elements (column 3, lines 30-38); and

the control means controls drive timing of the printing elements according to differences in detection times of printed pixels (column 1, lines 57-67, column 3, lines 1-9).

Regarding claim 8, the detection means includes light sources (column 6, lines 7-17) and photoelectric conversion devices 16.

Regarding claims 9 and 10, see column 1, lines 17-23.

Regarding claim 11, see column 3, lines 1-9.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Weber et al. US 4,328,504 discloses optical sensing of images printed with an ink jet print head and changing printing timing signals based on the detection (see abstract).

Lindenfelser et al. US 5,534,895 discloses an optical sensor on a carriage carrying a printhead that senses printed images and corrects printing timing based on the detection (see abstract).



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Beauchamp US 5,883,646 discloses an optical sensor on a carriage carrying printing heads that senses printed images (see abstract).

Matsuda US 6,084,607 discloses an optical sensor mounted on a carriage carrying printing heads for sensing images produced by the printing heads and correcting deviations in images printed (see abstract, column 11, lines 12-25).

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Blaise Mouttet whose telephone number is (703) 305-3007. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow, Jr. Art Unit 2853, can be reached on (703) 308-3126. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Blaise Mouttet 11/16/2001

Bm 11/16/2001

  
John Barlow  
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